

REMARKS

Reconsideration of the present application is respectfully requested. The Applicants wish to thank the Examiner for recognizing that the rejection based on judicially-created double patenting grounds is traversed and for withdrawing the office action of January 11, 2006 in view of same. The applicants would also like to thank the Examiner for recognizing that claims 4, 15, 21, and 22 are in condition of allowance. As claims 5-7, 10-14, 16, 24-33, 40, and 41 are withdrawn from consideration, the remaining claims still under consideration are allowed claims 4, 15, 21, and 22, and claims 34-39 and 42, which are under rejection.

In this paper, the applicants cancel the claims previously withdrawn from consideration, namely claims 5-7, 10-14, 16, 24-33, 40 and 41. Such cancellation is without prejudice, and applicants reserve the right to prosecute same in a divisional application. Further, the applicants now add claims 43-49, which depend from claim 42.

Claim 42 stands rejected under 35 U.S.C. § 102 (b) as anticipated by Yamada et al., U.S. Patent No. 6,344,883. In Figure 32, Yamada et al., shows a “columnar” spacer at the center of a pixel. However, upon careful consideration of Yamada et al.’s teachings, it can be seen that the spacer 523 in Fig. 32 is the cross-section along line E-E’ in Fig. 31 (see Yamada et al. at col. 11 lines 51-53), and that the so-called “spacer” is actually a separation wall. Further, that being the case, a separation wall 532 is not a columnar spacer. Consider that the term “columnar spacer” means what it implies – it is a column-like spacer. See Figure 2 of the present disclosure. This is in contrast to the teachings of Yamada, where the separation wall has dimensions that are clearly not column-like. The examiner is invited to compare Figure 31 of Yamada and Figure 2 of the present disclosure. The applicants believe that upon making this comparison, the examiner will agree that Yamada does not teach or suggest the

invention of claim 42, in view of this difference in structure. Accordingly, it is submitted that claim 42 is patentable over Yamada et al.

Claims 34-39 and 42 are rejected under 35 U.S.C. §103(a) as unpatentable over Horie (U.S. Patent No. 6,061,117) in view of Yoshida (U.S. Patent No. 6,512,564)

The element in question is protrusion 4, shown in Figs. 5 and 10B of Figs. 5 and 10B of Horie, and spacers 110 of Yoshida et al. (Fig. 67).

As set forth in present claim 34,

at least one columnar spacer having a side surface that is slanted or inclined is provided between the two opposing plates for regulating a panel gap between said plates,

and further, claim 34 recites:

said at least one columnar spacer disposed approximately at a center of a pixel.

Thus, the as claimed spacer separates two adjacent plate members. Horie's protrusion clearly does not extend across a gap and therefore cannot regulate a panel gap, as evidenced by the Figures.

Yoshida does not cure the deficiencies of Horie. Yoshida discloses spherical spacers 110 that may have a vertical or horizontal alignment molecule layer on its spherical surface.

As stated in Yoshida et al., and with reference to its Figures 67 and 68,

FIG. 67 shows a further embodiment of the present invention. The liquid crystal display device 10 includes a liquid crystal 16 and spacers 110 between a pair of substrates 12 and 14. The spacers 110 are small spherical members to maintain a constant gap between the pair of substrates 12 and 14.

Thus, Yoshida's spacers are not columnar. In contrast, they are spherical. Moreover, because Yoshida et al.'s spacers are spherical, the reference does not teach a spacer with a

slanted or inclined side surface. Furthermore, Yoshida's spherical spacers are not disposed approximately at the center of the pixel, as set forth in claim 34. There clearly is no suggestion of placing a "columnar spacer" "with inclined or slanted slide walls" at "approximately at the center of a pixel".

The applicants submit that as of the filing date of the present application, no motivation existed for combining the teachings of Horie et al. and Yoshida et al. to arrive at a device having

at least one **columnar spacer having a side surface that is slanted or inclined** is provided between the two opposing plates for regulating a panel gap between said plates, said **at least one columnar spacer disposed approximately at a center of a pixel.**

Only with hindsight, clearly impermissible under the law, could a person combine and modify Horie et al's small little spacer 4 with Yoshida's spherical spacer 110 to attempt to come close to the Applicant's invention of claim 34. Even then, the combination falls short, as neither reference teaches inclined or slanted sidewalls. Accordingly, it is submitted that claims 34-39 are in condition of allowance.

The applicants are submitting new claims 43-49, which depend from claim 42. The new claims further distinguish over Yamada et al.

The applicants recognize that the words "convex" and "concave" that appear in claims 43-49 are not used in the specification. However, the applicants believe that the amendments made herein are fully supported by the specification and claims as originally filed, and also by the parent of the present application, U.S. application no. 09/384,186, filed August 27, 1999, now U.S. Patent no. 6,774,974.

Support for the amendments can be found in Figs. 4 and 5, which show embodiments in which the orientation layer and pixel electrode layer are respectively recessed and protruding. Also, consider the specification at page 19 lines 17-20 (pixel electrode is provided on insulating film and basically defines the shape of the recess), page 20 lines 7-8 (pixel electrode is a recess), page 21 lines 12-15 (figure 5 shows insulating film as protrusion instead of as a recess).

Now, with the understanding that figures show the protrusions and recess in cross-section, which without more may not support the amendments, the examiner is directed to the specification at page 17 lines 21-24, where it is indicated that

Though the plasma structure of a pixel electrode 8 may be rectangular in general a *circular* and oval shape is preferred *if matching with the recess or protrusion is taken into consideration*.

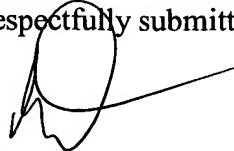
It is submitted that, in consideration of at least the specification passages cited above, the skilled artisan would recognize that the orientation layer and pixel electrode could take convex and concave shapes, as pixel electrode, and orientation layer, if circular in shape, would be expected to take a convex or concave shape. Accordingly, it is submitted that new matter is not added with the entry of the amendments submitted herewith.

In view of, at the least, the above-cited passages of the present disclosure, the skilled artisan would recognize that convex or concave shapes for the pixel electrode are likewise supported herein.

It should be understood that, with the understanding that claim 42 is in condition of allowance, claims 43-49 should be regarded as in the same favorable state.

Wherefore, based upon the foregoing, it is submitted that the present application is in condition of allowance, and a relatively early reply would be greatly appreciated.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Richard J. Danyko', with a long horizontal flourish extending to the right.

Richard J. Danyko
Registration No. 33,672

SCULLY, SCOTT, MURPHY & PRESSER, P.C.
400 Garden City Plaza - Suite 300
Garden City, New York 11530
(516) 742-4343

RJD:ej